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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,980	12/06/2002	Jen-I Kuo	10399-US-PA	4516

31561 7590 09/16/2004

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,980	Applicant(s) KUO ET AL.	
	Examiner Justin R Fischer	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Onzuka (JP 2000-127123). As best depicted in Figure 5, Onzuka teaches a method of making a multilayer ceramic package comprising (a) arranging a first substrate layer (4a-4d) and second substrate layer (5a and 5b) adjacent one another, wherein said first substrate layer has a cavity that exposes the top surface of said second substrate layer, (b) pouring or dispensing a liquid filling material 15 into said cavity, (c) heat hardening said liquid material, (d) compression molding the assembly, (e) removing said fill material, and (e) sintering the assembly defined by the first and second substrate layer (Paragraph 16- as obtained from a USPTO translator). It is noted that while it is unclear if there is heating during the compression molding, the claim as currently drafted only requires that a heating step is performed and as noted above, the assembly is heat hardened (claim does not require a solidifying step different from heating step).

As to claims 2 and 8, the first and second substrate layers are ceramic green sheets or tapes formed of ceramic powder, glass, and a binder as is conventional in the electronic packaging industry (Paragraph 3).

Art Unit: 1733

Regarding claims 3, 4, 9, and 10, the filling material of Onzuka is a sealant-like material, such as a polyurethane rubber material (Paragraph 16).

With respect to claims 6 and 11, as noted above, the fill material is in liquid form and is poured or dispensed into a cavity within the green tape assembly.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onzuka as applied in the previous paragraph and further in view of Hass (US 5,972,140). In describing the green tape assembly, Onzuka describes the inclusion of a plurality of cavities; however, the reference fails to describe how the cavities are formed. One of ordinary skill in the art at the time of the invention would have found it obvious to form the cavities of Onzuka by laser ablation since it represents one of the common cavity-forming or hole-forming techniques used in the electronic packing industry, as shown for example by Hass (Column 5, Lines 1-14). In particular, laser ablation provides an extremely accurate contour for the cavity. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have readily appreciated the use of laser ablation in the method of Onzuka.

5. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onzuka and further in view of Gauci (US 5,478,420). As set forth in Paragraph 2

Art Unit: 1733

above, Onzuka substantially teaches the method of the claimed invention. In regards to the "heating step", Onzuka teaches that the assembly (stacked green tapes and fill material) is compression molded- it is unclear, though, if the assembly is heated during compression molding. Gauci is similarly directed to a method of forming a multilayer ceramic package in which the stacked assembly is described as being compression molded under certain temperature and pressure conditions, suggesting that heating and pressing are recognized operations (in this industry) during compression molding (Column 5, Lines 20-45). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to apply heat and pressure during compression molding to the assembly of Onzuka after the fill material is solidified. It is emphasized that the application of heat and pressure is consistent with "compression molding" of stacked, green tape assemblies in the electronic packaging industry.

Regarding claim 12, Gauci evidences the common use of a pair of press platens to carry out compression molding (Column 5, Lines 20-30).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

September 14, 2004


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